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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,082

03/30/2004

Hung-Chang Hung

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EXAMINER

BAE, JI H

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/812,082

Applicant(s)

HUNG ET AL.

Examiner

Ji H. Bae

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 3, 6, 9, 15, and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 3, 6, 9, and 17, applicant's usage of the term "interrupt" is unclear and appears to conflict with the usage in applicant's disclosure. Applicant's specification appears to define the "interruption program" as interrupting an operating system or some other program in order to access the RAM [page 7, lines 6-24]. Applicant's claim appears to recite the interruption step as interrupting an access of the RAM [claim 3, lines 2 and 3].

Regarding claim 15, the configuration of the resistors as recited in the claim is not taught in the specification. Applicant's disclosure does not detail any such configuration of resistors. Although applicant makes reference to Fig. 2, the resistor connections shown in the figure differ from those claimed. In particular, the figure does not show a resistor connected between the negative terminal of the battery and ground, as recited in claim 15. Examiner further notes that the resistor labeled as "R2" is not recited in claim 15.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the power detection unit" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim. Claim 15 is written as being dependent from claim 5, which does not recite a "power detection unit".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Kehoe et al., U.S. Patent No. 6,837,435 B2.

Regarding claim 1, Kehoe teaches a method for avoiding data loss in a PDA, comprising:

backing up user information stored in the RAM into the predetermined region when remaining power of the battery is lower than a default value [Fig. 17, col. 9, lines 31-48]; and

restoring user information from the predetermined region to the RAM when system power is recovered [col. 9, lines 44-48].

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Regarding claim 21, Kehoe teaches a method for avoiding data loss in a PDA comprising backing up user information stored in the RAM to the predetermined region in response to voltage variation of the battery [Fig. 17, col. 9, lines 31-48].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-10, 12-18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kehoe et al. in view of Byrd, U.S. Patent No. 4,763,333.

Regarding claims 2 and 5, Kehoe teaches the method of claim 1, but does not teach outputting an enable signal or a recovery signal.

Byrd teaches a system for preventing data loss due to power interruption. The system of Byrd includes signals that are generated by a power monitor circuit to indicate interruption and restoration of system power [col. 2, lines 54-60, col. 11, lines 25-28].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Kehoe and Byrd by modifying Kehoe to include signals indicating power interruption and restoration, such as those suggested by Byrd. Both Kehoe and Byrd teach systems that prevent the loss of data stored in volatile memory by monitoring for a predetermined power condition, and backing up data to (or restoring data from) a non-volatile memory when the condition is met. Although Kehoe does not explicitly teach signals for communicating the power condition, one of ordinary skill in the art would clearly recognize the need for the battery monitor of Kehoe to provide some way of communicating the power condition to the rest of system such

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that the appropriate actions may be triggered. The teachings of Byrd would improve Kehoe by explicitly teaching a way to trigger the appropriate responses when certain power conditions are met.

Regarding claims 4 and 7, it would have been obvious to one of ordinary skill in the art to save file system, registry, and global operating system settings.

Regarding claim 8, the combination of Kehoe and Byrd teaches a PDA capable of avoiding data loss comprising:

- a nonvolatile accessible memory having a predetermined region;

- a RAM to store user information;

- a battery to power the PDA; and

- a power detection unit to output an enable signal when remaining power of the battery is detected as lower than the default value, and to output a recovery signal when remaining power of the battery exceeds the default value.

Regarding claim 10, Kehoe/Byrd teaches that the predetermined region backs up user information only.

Regarding claim 12, Kehoe/Byrd teaches that the nonvolatile accessible memory stores preset data.

Regarding claim 13, Kehoe/Byrd teaches that the nonvolatile accessible memory is a flash memory [col. 3, lines 2-6].

Regarding claim 14, the use of SDRAM would have been obvious as a matter of design choice.

Regarding claim 15, the connectivity of the resistors would have been obvious as a matter of design choice.

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Regarding claim 16, the combination of Kehoe and Byrd teaches a PDA capable of avoiding data loss, comprising:

- a nonvolatile accessible memory storing preset data and programs;

- a RAM to store user information;

- an external flash memory having a predetermined region [external adapter with flash memory, col. 2, lines 53-56, col. 3, lines 2-6];

- a battery to power the PDA;

- a power detection unit to output an enable signal when remaining power of the battery is detected as lower than a default value, and output a recovery signal when the remaining power of the battery exceeds the default value; and

- a CPU coupled to the nonvolatile accessible memory, the RAM and the external flash memory, to back up user data stored in the RAM to the predetermined region when receiving the enable signal and to restore user information to the RAM when receiving the recovery signal.

Claims 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kehoe and Byrd as applied to claims 8 and 16 above, and further in view of Atkinson et al., U.S. Patent No. 6,760,850 B1.

Regarding claims 11 and 19, Kehoe/Byrd teaches the PDA of claims 8 and 16, but does not teach a user interface to output the enable signal and recovery signal.

Atkinson teaches a power control system for a computer wherein a user may initiate a power mode through a user interface [col. 3, lines 45-52].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Kehoe/Byrd and Atkinson by adding a user interface to the system of Kehoe/Byrd to control the

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power modes, as taught by Atkinson. Both Kehoe/Byrd and Atkinson are directed towards power control for computing system. The teachings of Atkinson would improve the combination of Kehoe and Byrd by providing a means for the user to directly control the power modes.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Park, U.S. Patent Application Publication No. 2003/0145191 A1;

Govindaraj et al., U.S. Patent No. 6,901,298 B1;

Shim et al., U.S. Patent No. 6,032,255;

Watts, U.S. Patent No. 6,336,161 B1;

Clark et al., U.S. Patent No. 5,765,001;

Culbert, U.S. Patent No. 5,557,777;

Park, U.S. Patent No. 7,028,220 B2;

Johnson et al., U.S. Patent No. 6,571,343 B1;

Hershenson et al., U.S. Patent No. 6,996,733 B2;

Strasser, U.S. Patent No. 6,990,603.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ji H. Bae whose telephone number is 571-272-7181. The examiner can normally be reached on Monday-Friday, 10 am to 6:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, consisting of a large, stylized 'J' followed by a horizontal line.